

USSR

SAKHNOVSKAYA, M., Meditsinskaya Gazeta, 6 Sep 72, p 3

Drishel' [transliterated] titled "Neuron Principles of Memory" demonstrated the successes of neurophysiologists of the German Democratic Republic.

The report by the American psychologist K. Pribram [transliterated], who studied the behavioral reactions of animals, was heard with great attention. Of particular interest were the results of his experiments in which the amygdalus was removed from apes. These results showed a change in adaptation to the new conditions of brain functioning.

Represented at the symposium was diverse material that gave food for thought, analysis, and comparison of hypotheses, concepts, and methodological approaches for researchers who travel different paths to a common goal -- the decoding of the neurophysiological mechanisms by which mental processes are encoded. Each stage of this path is of tremendous theoretical significance and is very important to clinical practice.

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USSR

UDC 621.791.76.052:621.7.044.2:620.18

SAKINOVSKAYA, Ye. B., Engineer, SEDYKH, V. S., Candidate of Technical Sciences,
TARABRIN, G. I., Candidate of Technical Sciences, TRYKOV, YU. P., Candidate of
Technical Sciences, Volgograd Polytechnic Institute

"Structural and Mechanical Nonuniformity of Explosion-Welded Steel-Aluminum
Joints"

Moscow, Svarochnoye proizvodstvo, No 9, 1972, pp 7-9

Abstract: A study was made of the structural and mechanical nonuniformity and strength of an explosion-welded three-layer composition of the two aluminum alloys AMg6+AD1 and Kh18N10T steel as a function of the kinetic energy of the impact, the scaling factor and the relative thickness of the aluminum sublayer. During explosion welding of this three-layer composition, an increase in the kinetic energy of the impact above W_0 leads to an increase in the proportional participation of the steel elements in the formation of the fused sections, gradual increase in their hardness and a sharp decrease in the strength of the AD1-Kh18N10T joint in the range of values $W > W_{critical}$. The process parameters, the welding schematic and the scaling factor have an effect on the structural and mechanical nonuniformity of the steel-aluminum joint. The strength characteristics of the explosion-welded AMg6+AD1+Kh18N10T compositional joint

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SAKHNOVSKAYA, Ye. B., et al., Svarochnoye proizvodstvo, No 9, 1972, pp 7-9
depend essentially on the relative thickness of the interstitial layer of aluminum
and can be calculated by the formulas proposed earlier [O. A. Bakshi, Voprosy
svarochnogo proizvodstva, Trudy ChPI, No 33, 1965; O. A. Bakshi, et al., Voprosy
svarochnogo proizvodstva, Trudy ChPI, No 63, 1968]. The experimental data
are plotted graphically, and the mechanisms of the formation of the mechanical
and structural properties of the joints are discussed.

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USSR

UDC 621.791:621.7.044.2:669.15-194.56-669.715

~~SAKHNOVSKAYA, YE. B.~~, Engineer, SEDYKH, V.S., Candidate of Technical Sciences,
and TRYKOV, YU.P., Candidate of Technical Sciences, Volgograd Polytechnic
Institute

"Properties of Joints of Austenitic Steel With Aluminum Alloys, Produced by
Explosive Welding"

Moscow, Svarochnoye Proizvodstvo, No 7, 1971, p 34-36

Abstract: This article 1) studies some regularities in the changes in mechanical properties of explosively welded joints between austenitic steel and binary aluminum alloys, based on analysis of the state diagrams, 2) studies the temperature-time conditions of formation of intermetallic compounds during the process of heating of welded joints, and 3) suggests alloys based on this composition, providing high steel-aluminum joint strength. Increasing the initial strength (hardness) of the aluminum alloys causes a reduction in the range of optimal pressures realizing the maximum joint strength. A "triangle of weldability" was produced, which can be used to determine the optimal parameters of explosive welding of these metals. Alloying of the aluminum with Si, Fe, Cu, and Ni increases the length of the incubation period for formation of the diffusion interlayer. Alloying with Si, Fe, and Ni increases the strength of the steel-aluminum joint after long heating to 200-550°C. When

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SAKHNOVSKAYA, YE. B., et al, Moscow, Svarochnoye Proizvodstvo, No 7, 1971,
pp 34-36

commercial aluminum alloys are welded to austenitic steel, an interlayer of aluminum alloyed with Si, Fe, Ni, or Cu should be used between them, allowing an increase in the initial strength of the composite.

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UDC 621.791.76:621.7.044.2:669-419.4:621.643.4.065

LISUKHA, G. P., Engineer, KHEYFETS, M. Ye., Engineer (Volgograd Ship Building Plant), KAZAK, N. N., Engineer, ~~OVCHINNIKOV, A. B.~~, Engineer, ~~SAKHNOVSKAYA, Ye. B.~~, Engineer, and TRYKOV, Yu. P., Candidate of Technical Sciences (Volgograd Polytechnical Institute)

"Efficiency of Bimetallic Steel-Aluminum Adapters Produced by Explosive Welding"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 20-22

Abstract: Tests were made of a composite material produced by explosive welding of St.4S and Kh18N10T steels 8 mm thick to a cladding layer of AMg6 aluminum alloy 6 mm thick with a sublayer of AD1 technical aluminum 1.5 mm thick acting as a plasticity buffer. The tests showed that the bimetal AMg6 + St.4S has an average layer-separation resistance of 9.9 kg/mm² and a shear strength of 7.6 kg/mm², while AMg6 + Kh18N10T has strengths of 7.0 and 6.8 kg/mm², respectively. The AMg6 + steel produced can be used for the manufacture of adapters of various shapes for the production of steel-aluminum welded structures. The proper sequence for welding of a steel-aluminum structure to avoid overheating of the bimetal

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LISUKHA, G. P., et al, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 20-22

over a broad range of welding currents was determined. If the optimal welding current values determined are exceeded, a sharp decrease in strength of the welded joints involving Kh18N10T steel occurs, as a result of its higher tendency toward overheating than St.4S.

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UDC 621.039.516

SAKHNOVSKIY, E. G.

"Use of the Method of Lagrange Multipliers for Nuclear Reactor Optimization"

Moscow, Atomnaya Energiya, Vol 29, No 3, Sep-Oct 70, pp 201-202

Abstract: The article considers the optimization of systems described by equations whose form varies at a certain point of the range of the independent variable. The functional to be minimized and the boundary conditions depend on the interior points of this range, and constraints depending on system state variables are imposed on the control functions. All the necessary system optimality conditions can be obtained by means of the method of Lagrange multipliers, using the ordinary technique of the calculus of variations in conjunction with a certain modification of classical reasoning. As a simple example illustrating the possibilities of the method and permitting a unique analytical solution, the article considers in one-group approximation

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SAKHNOVSKIY, E. G., Atomnaya Energiya, Vol 29, No 3, Sep-Oct 70,
pp 201-202

the problem of the minimum critical size of a reflected slab reactor in the presence of restrictions on the uranium concentration and specific power and with a given total reactor power.

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USSR

GUSEV, V. V., MAR'YANOVICH, T. P., SAKHNYUK, M. A.

"Program Modeling of Complex Systems"

Upravlyayushchiye Sistemy i Mashiny [Control Systems and Machines], 1972,
No 1, pp 19-26 (Translated from Referativnyy Zhurnal Kibernetika, No 6,
1973, Abstract No 6V739, by the authors).

Translation: The essence and certain methodological problems of investigation of complex systems on computers by the use of modeling languages and programming systems based on them are discussed in readable form.

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USSR

UDC: 8.74

GUSEV, V. V., MAR'YANOVICH, T. P., SAKHENYUK, M. A.

"The NEDIS Modeling System"

Teoriya Yazykov i Metody Postroyeniya Sistem Programmir. [The Theory of Languages and Methods of Construction of Programming Systems--Collection of Works], Kiev, Alushta, 1972, pp 397-405 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V541, by V. Mikheyev)

Translation: A programming system based on the NEDIS modeling language for the BESM-6 computer is discussed. NEDIS is a high level algorithmic language, designed for modeling of systems, combining discrete and continuous processes. Discrete-continuous systems are systems in which the values of parameters change continually in the time intervals between discrete events, according to time dependence fixed as a system of differential equations. The structure of the system of differential equations, like the structure of the entire system, is formed as a result of the discrete events occurring in the system. An example of description of a discrete-continuous system in NEDIS is presented.

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1/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--EFFECT OF STRUCTURAL FACTORS ON THE RATIO OF SPECIFIC LOSSES P
SUB1.0 OVER 50 AND P SUB1.5 OVER 50 OF COLD ROLLED TRANSFORMER STEEL -U-
AUTHOR--(04)--KAZADZHAN, L.B., SAKIK, N.P., SUKHANDV, L.F., SHAPOVALOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 241-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--TRANSFORMER STEEL, COLD ROLLING, MAGNETIC PROPERTY, CRYSTAL
LATTICE DEFECT, MAGNETIC HYSTERESIS, MAGNETIC INDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1995/0202

STEP NO--UR/0048/70/034/002/0241/0244

CIRC ACCESSION NO--AP0115906

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115906

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IT IS USUALLY ASSUMED THAT P
SUB1.0-50 DEPENDS MORE ON THE STRUCTURE THAN P SUB1.5-50. IN THIS
CONNECTION THE CAUSES WERE INVESTIGATED OF THE DIFFERENCES OF THE LOSS
RATIOS AT VARYING VALUES OF THE MAGNETIC INDUCTION AMPLITUDE.
INDUSTRIAL TRANSFORMER STEEL WAS EMPLOYED IN THE STUDY. LATTICE DEFECTS
SUCH AS IMPURITIES OR RESIDUAL STRESSES INCREASE THE HYSTERESIS LOSSES
AND DO NOT AFFECT THE EDDY CURRENT LOSSES. IT IS SUCH DIFFERENCES IN
THE EFFECT OF STRUCTURAL FACTORS ON THE LOSS COMPONENTS THAT CAUSE A
VARYING CHANGE IN THE TOTAL SP. LOSS AT DIFFERENT MAGNETIC INDUCTION
AMPLITUDES.

FACILITY: NOVO-LIPETSK. MET. ZAVOD, NOVO-LIPETSK,

USSR.

UNCLASSIFIED

USSR

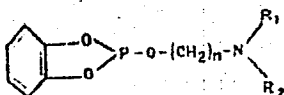
UDC 547.26'118.07

KHASKIN, A. N., SAKISYAN, L. A., KHUDOYAN, K. L., AYRAPETYAN, S. G., and
ZAVLIN, P. M., Leningrad Institute of Cinema Engineers

"A Method of Making N-Substituted Aminoalkyl Esters of Pyrocatecholphosphorus
Acid"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
1970, No 25, Soviet Patent No 277781, class 12, filed 4 Apr 69, published
5 Aug 70, p 27

Translation: This Author's Certificate introduces a method of making N-
substituted aminoalkyl esters of pyrocatecholphosphorous acid of general
formula



where n is 2 or 3, R₁ is C₂H₄OH, an alkyl or a phenyl, and R₂ is H or an
alkyl. As a distinguishing feature of the patent, the corresponding N-
substituted alkanolamines are treated with pyrocatecholchlorophosphite
in an organic solvent with subsequent isolation of the product by the
action of an alkoxide of an alkali metal.

USSR

UDC: 669.721.042.62

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ARUSOO, A. K., KARRO, Kh. Kh., LAUGIS, Yu. Ya., LOOTUS, Ya. K., LOYGOM, V. V.,
SAKKOS, Kh. A., TIYSMUS, Kh. A.

"MHD Drives for Pumping of Liquid Magnesium"

MGD v Metallurgii i Liteyn. Proiz-ve [MHD in Metallurgy and Foundry Production -- Collection of Works], Kiev, 1972, pp 126-130 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G202, by G. Svodtseva).

Translation: The Tallin Polytechnical Institute has developed and introduced to metallurgical production several induction MHD drives for feeding liquid Mg from a continuous refining furnace to a casting conveyor. The basic technical data are presented on the MHD drives and a schematic diagram of the power portions is presented. The drives operate under manual control. During tapping, the static head and hydraulic resistance are increased. This means that conservation of constant productivity requires that the supply voltage be increased by 1.2-1.8 times. The channel of the pump is replaced every three to five days. A diagram of the activity of the MHD drive under manual control is presented.

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Acc. Nr.: APO029423

Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena Truda i Professional'nyye Zabolevaniya,
1970, Nr 1, pp 15-18

SANITATION OF WORK CONDITIONS IN PYROMETALLURGY OF NICKEL WITH
SULFIDE ORES SERVING AS THE BASE MATERIAL

A. V. Saknun

Summary

The author presents a comprehensive review of the dust factor in the pyrometallurgy of nickel and gives characteristics of the microclimate, sulfur dioxide content in the atmosphere and of the ventilation facilities. Data on the disease incidence among workers and recommendations for sanitary arrangements designed to improve working conditions are offered.

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REEL/FRAME

19681019

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USSR

UDC 547.26'118

NIFANT'YEV, E. Ye., BEBIKH, G. F., and SAKODYNSKAYA, T. P., Moscow State University imeni M. V. Lomonosov

"Use of Anilides of Alkylene- and Dialkylphosphorus Acids in the Todd-Atherton-Type Reaction"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 2011-2015

Abstract: Alkylene phosphorous acid anilides are made from alkylenechlorophosphites and aromatic amines. It is shown that anilidophosphites can be used to obtain iminoamidophosphates by oxidative phosphorylation and the Todd-Atherton-reaction. 1,3-Butylene phosphorous acid anilide readily reacts with carbon tetrachloride and diethylamine to form 1,3-butylene diethylaminophenyliminophosphate. The reaction is described in detail and the properties of alkylene(dialkyl)phosphorous acid anilides and arylimino-alkylene(dialkyl)phosphoric acid amides are given in tables.

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USSR

UDC 632.95

SAKODYNSKIY, K. I., PIVOVAROV, G. A.

"Identification of Organochloride and Organophosphorus Pesticides by Relative Retention Times"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zaaryaz-
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-
Union Conference on the Investigation of Pesticide Residues and Preventive
Contamination of Food Products, Fooder and Environment), Tallin, 1971, pp 120-
123 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N420).

Translation: Data are presented on the relative retention times (with respect to aldrin) obtained for 23 organochlorine and organophosphorus pesticides by means of a chromatograph with an electron capture detector in the following columns: 1) nonpolar with 3% methylsilicone (SE-30) in silanized chromosorb W; 2) mixed (1:1) with 3% fluorosilicone (QF-1) and methyl silicone (SE-30) in the same carrier; 3) polar with 3% fluorosilicone (QF-1) in the same carrier; 4) polar with 3% diethyleneglycol succinate and the same carrier (temperature 180°).

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SAKODYNSKIY, K.I.

gas chromatography

USE OF GAS CHROMATOGRAPHY IN PETROCHEMISTRY

(Conference in Moscow)

Article by Doctor of Chemical Sciences V.G. Sakhmurov, ¹
Vestnik Akademii Nauk SSSR, Russian, No 6, June 1973, pp 129-
 130]

JPRS 57718
 6 Aug 1973

(15)

Increases of the effectiveness of scientific investigations and growth of the productivity and rate of chemical processes used in industry are stipulated to a considerable degree by the successful development of new physicochemical methods of conducting scientific experiments and controlling production. One such method is gas chromatography. Many quantitative determinations previously considered practically impossible are performed by means of gas chromatography in the course of minutes, and in some cases even of seconds. The method has high resolution and sensitivity, is readily automated, and makes it possible to effectively control technological processes.

The scientific councils for Petrochemistry and Chromatography, the Institute of Petrochemical Synthesis, and the Scientific Council of the AS USSR and the Scientific and Technological Institute of the Ministry of Petroleum Refining and Petrochemical Industry USSR conducted on 5-8 February the first All-Union Conference on the Use of Gas Chromatography in Petrochemistry. Participating in it were over 200 persons representing over 90 scientific research organizations, enterprises, special design offices and VUZ. Thirty-four reports were heard.

In his introductory speech the Chairman of the Scientific Council for Chromatography of the AS USSR, K. V. Gmurov noted the ever-increasing importance of gas chromatography in the analysis of complex mixtures in petroleum refining and petrochemistry, in studying the thermodynamics of adsorption and petrochemical processes, in determining the characteristics of catalysts, and in determining the diffusive characteristics of gases and liquids and other physicochemical characteristics.

(17)
The contemporary state of the production and application of Soviet stationary liquid phases, solid carriers and absorbents for gas chromatography were examined in the reports of N. A. Akopyukhina, B. G. Distanov et al and N. A. Demant'yeva et al, and the use of computers to process the results of gas-chromatographic investigations -- in the report of V. A. Barinov.
The held conference demonstrated the expansion of the applications of gas chromatography in petrochemistry and designated the paths of the further development of those methods.

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CAPACITY OF LABORATORY SCALE PREPARATIVE CHROMATOGRAPHY COLUMNS -U-
AUTHOR--(02)-SAKODYNSKIY, K.I., VOLKOV, S.A.
COUNTRY OF INFO--USSR
SOURCE--J. CHROMATOGR. 1970, 49(1), 76-83
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GAS CHROMATOGRAPHY, PARAMETER, ISOTHERM, ADSORPTION, CHEMICAL
LABORATORY APPARATUS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0929 STEP NO--NE/0000/70/049/001/0076/0083
CIRC ACCESSION NO--AP0134658
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134658

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION BETWEEN THE CAPACITY OF PREPARATIVE GAS CHROMATOGRAPHIC COLUMNS AND THE EXPTL. SEPN. PARAMETERS, E.G. COLUMN LENGTH AND TEMP., CARRIER GAS FLOW RATE, AND THE SELECTIVITY FACTOR, IS DESCRIBED, WHICH IS VALID FOR THE LINEAR PORTION OF THE SORPTION ISOTHERM. THE RELATION CAN BE USED FOR A SEMIQUANT. EVALUATION OF THE COLUMN CAPACITY. FACILITY: L. YA. KARPOV. INST. PHYS. CHEM., MOSCOW, USSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MECHANISM OF THERMIONIC DETECTION -U-
AUTHOR--(03)-BRAZHNIKOV, V.V., GUREV, M.V., SAKODYNSKIY, K.I.
COUNTRY OF INFO--USSR
SOURCE--CHROMATOGRAPHIA 1970, 2, 53-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--THERMIONIC EMISSION, DETECTION EQUIPMENT, ORGANOPHOSPHORUS,
PESTICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1828 STEP NO--UK/0000/70/002/000/0053/0058
CIRC ACCESSION NO--AP0118792
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118792

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALONG WITH DETECTORS OF THE UNIVERSAL TYPE, SELECTIVE DETECTORS SHOWING RESPONSES OF A VARIABLE DEGREE TO THE GROUPS OF COMPS. CONTG. DIFFERENT ELEMENTS OR FUNCTIONAL GROUPS HAVE FOUND WIDE USE RECENTLY. ONE SUCH DETECTOR IS A THERMIONIC DETECTOR (TID) SHOWING HIGH SENSITIVITY AND SELECTIVITY TOWARDS P CONTG. COMPS. AT PRESENT, A NO. OF COM. TID OF VARIOUS TYPES ARE AVAILABLE WHICH HAVE FOUND PARTICULARLY WIDE USE IN ANAL. OF ORGANOPHOSPHORUS PESTICIDES. DESPITE ACCUMULATION OF RATHER EXTENSIVE FACTS ON TID PERFORMANCE, THE MECHANISM OF DETECTING BY A THERMIONIC DETECTOR REMAINS VAGUE IN MANY RESPECTS. SOME PROCESSES OF THERMIONIC DETECTION ARE DISCUSSED. FACILITY: INST. SPACE RES., MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PREPARATION OF SHELL MOLDS BY USING ETHYL SILICATE 40 FOR
INVESTMENT CASTING -U-
AUTHOR--(05)-OZEROV, V.A., SAKODYNSKIY, K.I., SHPRITS, B.B., MOSEVA, L.I.,
BERKOVSKIY, V.M.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZOO. 1970, 2, 14-15
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SHELL MOLD, INVESTMENT CASTING, ORGANIC SILICATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1735 STEP NO--UR/0128/70/002/000/0014/0015
CIRC ACCESSION NO--AP0118713
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118713

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE APPLICATION OF ET SILICATE-40 TO SHELL MOLDS MADE IT NECESSARY TO FOLLOW THE PROCESSES OCCURRING DURING THE PREPN. OF THE BONDING SOLN. PROPERTIES OF THE SOLN. ARE DEPENDENT ON THE CONTENT OF FREE H SUB2 O. CHROMOATOG. OF HYDROLYZED ET SILICATE SOLN. IS USED TO DET. THE PROCESSES OCCURRING DURING HYDROLYSIS. ON THIS BASIS, IT IS POSSIBLE TO CHOOSE: AN OPTIMUM RECIPE, A MANNER OF HYDROLYSIS, A MEANS OF PREPN. OF SHELL MOLDS FOR EACH PROCESS VARIANT, AND A MEANS OF CONTROLLING THE COMPN. OF HYDROLYZED SOLNS. THE ADDN. OF ET SILICATE-40 DECREASED THE COST OF THE BONDING AGENT AND INCREASED THE PRODUCTIVITY OF SHELL MOLD PREPN.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INFLUENCE OF THE RATE AND NATURE OF A GAS CARRIER ON THE
EFFECTIVENESS AND PRODUCTIVITY OF GAS ADSORPTION PREPARATIVE COLUMNS -U-
AUTHOR-(02)-ZELVENSKIY, V.YU., SAKODYNSKIY, K.I.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 135-42

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GAS CHROMATOGRAPHY, GAS ADSORPTION, FLOW RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0563

STEP NO--UR/0204/70/010/001/0135/0142

CIRC ACCESSION NO--AP0119401

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119481

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VALIDITY OF THE THEORETICAL RELATIONS DESCRIBING LINEAR CHROMATOGRAPHY WAS CONFIRMED ALSO FOR GAS ADSORPTION PREPARATIVE COLUMNS. OPTIMAL FLOW RATES OF THE CARRIER GAS WERE ESTD. FOR COLUMNS PACKED WITH MODIFIED SILICA WITH REGARD TO THE EFFICIENCIES, PRODUCTIVITIES, AND PEAK SYMMETRIES. THE DECREASE IN EFFICIENCY AFTER INCREASE OF THE CARRIER GAS FLOW RATE OCCURS MORE SLOWLY AT THE ADSORBENTS THAN AT THE LIQ. PHASE. WHEN LOW MOL. WT. CARRIER GASES ARE USED THE FLOW RATE CAN BE INCREASED CONSIDERABLY WITHOUT SUBSTANTIAL DECREASE OF EFFICIENCY. FACILITY: NAUCH.-ISSLED. FIZ.-KHIM. INST. IM. KARPOVA., MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THERMIONIC DETECTORS IN GAS CHROMATOGRAPHY -U-
AUTHOR-(03)-BRAZHNIKOV, V.V., GUREV, M.V., SAKODYNSKIY, K.I.
COUNTRY OF INFO--USSR
SOURCE--CHROMATOGR. REV. 1970, 12(1), 1-41
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--GAS CHROMATOGRAPHY, THERMIONIC TUBE, GAS DETECTOR,
BIBLIOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1551 STEP NO--US/0000/70/012/001/0001/0041
CIRC ACCESSION NO--AP0101627
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0101627

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW IS GIVEN COVERING DESIGN
AND EVOLUTION, CHARACTERISTICS, PHYS. FUNDAMENTALS OF DETECTION, AND
APPLICATIONS OF THERMIONIC DETECTORS. FACILITY: L. YA. KARPOV
INST. PHYS. CHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

PIVOVAROV, G. A., and SAKODYNSKIY, K. I.

"Identification of Certain Chloro- and Phosphoorganic Pesticides on the Basis of Retention Time"

V sb. Novyye Sorbenty Dlya Khromatografii (Collection of Works on New Sorbets for Chromatography), Vyp 16, Moscow, 1971, pp 115-118 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom (I, L-S), No 1(II), 1973, Abstract No 1N444 by I. A. Revel'skiy)

Translation: The relative retention time of pesticides on sorbents was used for the identification of pesticides in multicomponent mixtures with the electron capture detector. Data are presented on the retention time of 23 chloro- and phosphoorganic pesticides with respect to aldrin. Glass columns containing the following sorbents were used: 3% methyl silicone SE-30; 3% fluorine silicone QF-1 and 3% methyl silicone SE-30; 3% fluorine silicone QF-1; 3% diethylene glycol succinate DEGS on chromosorb W containing silane.

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USSR

AFONIKOVA, N. S., DEGTYAREVA, V. F. LITVIN, YU. A., RABIN'KIN, A. G.,
SAKOV, YU. A. (1)

"Superconductivity and the Structure of Titanium Alloys with Niobium Subjected to Hydrostatic Pressures of up to 120 kilobars"

Leningrad, Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1096-1101

Abstract: A study was made of the structure and superconducting properties of Ti alloys with 10-90 atomic percent Nb subjected to pressures of up to 120 kilobars. Radiographic analysis indicated that in alloys with 10 and 20 atomic percent Nb under the effect of 30 and 50 kilobars of pressure, respectively, an ω -phase is formed and retained after loading in the metastable state at $P = 1$ atmosphere. This is accompanied by a significant drop in T_c of the alloys. In an alloy with 10 atomic percent Nb after treatment at $P = 120$ kilobars in the metastable state, the structure of 1 ω -phase was recorded. The structure and lattice parameters of the ω -phase obtained as a result of the pressure or ordinary heat treatment are similar; however, the formation of the ω -phase during heat treatment leads to a rise in T_c . A study was made of the possible causes of the different effect on T_c of the processes of formation of the ω -phase under pressure or during heat treatment. In alloys with 30 and 40 atomic percent Nb, the $P = 120$ kilobar effect also caused a
1/2

USSR

AFONIKOVA, N. S., et al., Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1096-1101

noticeable drop in T_c . This indicates the formation of an ω -phase in them which, as is known, does not occur in such alloys for any heat treatment conditions.

Conclusions are drawn from the presented data regarding the boundaries of the region of existence of the ω -phase in the titanium-niobium alloys at room temperature.

A schematic is presented of the region of stability of the ω -phase in P-C-coordinates at 300° K. The P-C-plane is divided into three regions: region I where there are structures corresponding to the initial state of the alloys after quenching and where the application of pressure still does not lead to the occurrence of the ω -phase; region II where the ω -phase exists combined with the initial phases and region III where one ω -phase is stable.

2/2

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USSR

UDC: 519.2

SAKOVICH, G. N.

"On Eigenfunctions of Concave Distributions"

Teoriya veroyatnostey i mat. stat. Mezhd. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1972, vyp. 6, pp 103-108 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V17)

Translation: A series of theorems is proved on probability distributions which are concave in some sense. It is established that the eigenfunction of a concave distribution may have a root only in an exceptional (precisely described) case. Necessary and sufficient conditions are given for concavity of a distribution in terms of its eigenfunction. Author's abstract.

1/1

USSR

UDC 616.33-091-02:[616.453+616.831.371]-008.1

KRYSHEN', P. F., KOLPAKOV, A. A., TKACH, YU, I., SAKOVICH, I. V., and CHUICH, N.A.:
Pathophysiology Laboratory, Dnepropetrovsk Institute of Gastroenterology

"Functional State of the Central Nervous System and Pathological Changes of the
Stomach Mucosa of Immobilized Rats"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 6,
Nov/Dec 72, pp 48-51

Abstract: The immobilization of rats for 24 hr (by tying them to boards) produced the excitation and inhibition states. The excitation state reached the peak in 4-5 hr. During this period the animals tried to escape, at first every 5-20 sec, then every 10-50 sec. The number of heart beats and respiration amounted to 447 ± 16 and 106.8 ± 3.9 per min, respectively. The inhibition state occurred in 4-5 hr during which the respiration and the number of heart beats decreased to 86.6 and 304, respectively. The contraction of muscles was slow and attempts for escape were repeated only 1 every 1-5 min. Anatomical studies of the stomach walls showed the presence of hemorrhages (0.1-2.5 mm in diam.), the blood vessels were dilated and full of blood in the mucous coat, as well as in muscle layers in some cases. Accumulation of lymphocytes, neutrophils, and histiocytes was detected under the mucous coat. The forceful

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USSR

KRYSHEN', P. F., et al., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 6, Nov/Dec 72, pp 48-51

immobilization caused an extreme excitation of the central nervous system, muscular, cardiovascular, and respiratory systems. The excessive activity of these systems for 4-5 hr consumed the energy reserves of the animal organism and inhibition followed. The central nervous system was affected first, followed by the inhibition of the muscular, cardiovascular, and respiratory systems.

2/2

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PASSAGE OF REACTOR NEUTRONS AT OBLIQUE ANGLES THROUGH SHIELDS -U-
AUTHOR--(04)--KUZNETSOV, V.G., SAKOVICH, V.A., SAKHAROV, V.M., STOLPOVA,
I.A.
COUNTRY OF INFO--USSR
SOURCE--VOP. DOZIM. ZASHCH. IZLUCH. 1969, NO. 9, 22-9
DATE PUBLISHED-----70
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--NEUTRON SHIELDING, REACTOR SHIELDING, ANGULAR DISTRIBUTION,
NEUTRON SPECTRUM, IRON, NEUTRON SCATTERING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1006 STEP NO--UR/2892/70/000/009/0022/0029
CIRC ACCESSION NO--AP0136433
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136433

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING THE METHOD OF SPHERICAL HARMONICS, BOTH ENERGY SPATIAL AND ANGULAR DISTRIBUTIONS ARE STUDIED OF REACTOR N INCIDENT AT AN OBLIQUE ANGLE ON A PLANE PARALLEL FE SHIELD. THE ANGULAR DISTRIBUTION OF N VARIES WITH INCREASING WIDTH OF SHIELD AZIMUTHALLY SYM. WITH RESPECT TO NORMAL OF THE SHIELD. THE FORM OF THE DISTRIBUTION IS THEN IDENTICAL WITH THAT GENERATED AT NORMAL PASSAGE OF N BEAM THROUGH THE SHIELD.

UNCLASSIFIED

Acc. Nr:

AP0046372

Abstracting Service:

INTERNAT. AEROSPACE ABST

Ref. Code:

5-70 URO208

A70-25190 # Use of the Monte Carlo method to calculate the risk of exceeding a given dose of solar flare protons (Primenenie metoda Monte-Karlo dlia vychisleniia riska prevysheniia zadannoi dozy protonov solnechnykh vspyshkek). V. L. Generozov, V. L. Kolomenskii, V. G. Kuznetsov, and V. A. Sakovich. *Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki*, vol. 10, Jan.-Feb. 1970, p. 247-250. 10 refs. In Russian.

Calculation of the radiation hazard presented to space vehicles by proton fluxes from solar flares, using the Monte Carlo method. An estimate is made of the probability of exceeding a given dose of solar flare protons. The distribution of the flares in time is simulated on a computer. At appropriate stages of the simulation the techniques of importance sampling and analytical averaging are applied.

A.B.K.

REEL/FRAME
19781537

12

USSR

UDC 546.623'171.1-162.2

TIMOFEYEVA, N. I., MORDOVIN, O. A., GRIBKOV, V. N., and SAKOVICH, V. N.

"Chemical Properties of Thread-Like Crystals in Aluminum Nitride"

Moscow, Zhurnal Prikladnoy Khimii, Vol 45, No 8, Aug 72, pp 1858-1860

Abstract: The thread-like crystals of AlN were obtained by partial reduction of aluminum oxide with carbon and silicon followed by nitridation of the intermediate reduction products. The crystals of aluminum nitride are highly stable at room temperature in acids, bases, in water, and in organic solvents. On heating they dissolve in phosphoric acid, in KOH and in Na_2CO_3 solutions, as well as in mixtures consisting of $\text{H}_3\text{PO}_3 + \text{HClO}_4$ (1:1) and $\text{H}_2\text{SO}_4 + \text{H}_3\text{PO}_4$ (1:1).

1/1

1/2 025
UNCLASSIFIED
TITLE--RHEOENCEPHALOGRAPHY IN THE DIAGNOSIS OF BRAIN TUMORS -U- PROCESSING DATE--16OCT70
AUTHOR--(04)-SHEFER, D.G., SKRYABIN, V.V., MYAKOTA, A.YE., SAKOVICH, V.P.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSKOVA, 1970,
VOL 70, NR 5, PP 680-684
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TUMOR, BRAIN, HYPERTENSION, INTRACRANIAL PRESSURE, DIAGNOSTIC
MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0234 STEP NO--UR/0246/70/070/005/0680/0684
CIRC ACCESSION NO--AP0117486
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117486

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF CLINICAL OBSERVATIONS OF 116 CASES WITH BRAIN TUMORS THE AUTHORS DISCUSS THE CHANGES OF REG DURING THE DIFFERENT STAGES OF THE HYPERTENSIVE SYNDROME. THE RESULTS OF SUCH STUDIES PERMIT TO CONCLUDE THAT THERE IS A CERTAIN CORRELATION BETWEEN THE CLINICAL STAGE OF INTRACRANIAL HYPERTENSION AND THE AMPLITUDE FREQUENCY CHARACTERISTICS IN THE REGISTERED CURVES. THE AUTHORS RECOMMENDED TO TAKE INTO CONSIDERATION THIS FACT IN A CLINICAL INTERPRETATION OF THE REG DATA, INASMUCH, AS THE FOCAL SYMPTOMS OF TUMORS MAY BE EXPRESSED ON THE BACKGROUND OF SUCH CHANGES OF THE REG WHICH IS CONDITIONED BY AN INCREASE OF THE INTRACRANIAL PRESSURE. FACILITY: KLINIKA NERVNYKH BOLEZNEY I NEYROKHIRURGII SVERDLOVSK MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--ON SOME RESULTS OF EXPEDITIONARY WATER BALANCE INVESTIGATIONS OF
SPRING FLOOD IN THE BASIN OF THE SHELOV RIVER -U-

AUTHOR-(02)-NEZHIKHOVSKIY, R.YE., SAKOVSKAYA, N.P.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 6, PP 78-85

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--RUNOFF, DIURNAL VARIATION, SPRING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/1778

STEP NO--UR/0050/70/000/006/0078/0085

CIRC ACCESSION NO--AP0125394

UNCLASSIFIED

2/2 012

CIRC ACCESSION NO--AP0125374

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE FIELD OF DIURNAL RUNOFF LAYER DURING THE SPRING FLOOD PERIOD IS ANALYSED. THE REASONS OF A SIGNIFICANT REGULATING ROLE OF THE BASIN SURFACE IN RUNOFF FORMATION ARE DETERMINED.

INSTITUT.

FACILITY: GOSUDARSTVENNY GIDROLOGICHESKIY

UNCLASSIFIED

USSR

UDC 539.374.385

NEMIROVSKIY, YU. V., and SAKS, E. E., Institute of Hydrodynamics, Siberian
Department of the Academy of Sciences, USSR (Novosibirsk)

"The Complex Elastoplastic Torsion of Cylindrical Shafts"

Kiev, Prikladnaya Mekhanika, Vol 9, No 9, 1973, pp 24-30

Abstract: Consideration is given to axially symmetric problems of the torsion of shafts of variable and constant diameter, with complex static and mixed boundary-value conditions. In the general case the material of the shaft is considered to be isotropic and subject to the deformation theory of plasticity, with arbitrary strengthening, during an active process of loading. For determining the values of the dislocation function in application to arbitrary bodies of revolution, finite-difference equations are derived which are solved by the method of successive approximations. As an example, consideration is given to problems of the torsion of a cylindrical shaft when a tangential load of constant intensity is acting upon some sector of the lateral surface, or when a zero angle of rotation is given. 6 figures. 8 references.

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1/2 007 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ON THE VOLUME AND POSITION OF THE CALLOWIAN STAGE OF ARCTIC REGION
-U-
AUTHOR--SAKS, V.N., MELEDINA, S.V., MESEZHNIKOV, M.S., SHULGINA, N.I.
COUNTRY OF INFO--USSR, ARCTIC OCEAN S
SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 1 (121) PP 31-38
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--POLAR AREA, ARCTIC GEOLOGY, GEOLOGIC FORMATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/1310 STEP NO--UR/0210/70/000/001/0031/0038
CIRC ACCESSION NO--AP0103192
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REASONABILITY OF THE CALLOWIAN
STAGE RELATION TO THE UPPER SERIES OF THE YURASSIC IS SHOWN BASED UPON
THE ARCTIC REGION DATA. IN THE CALLOWIAN OF THE ARCTIC ZOOGEOGRAPHICAL
PROVINCE SOME ZONES ARE DISTINGUISHED: ARCTICOCERAS KOCHI, CADOCERAS
ELATMAE (LOWER SUBSTAGE), CADOCERAS MILASCHEVICI (MIDDLE SUBSTAGE),
LONGAEVICERAS KEYSERLING (UPPER SUBSTAGE).

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--MEASURING THE GAS PERMEABILITY OF CONSTRUCTION MATERIALS -U-

AUTHOR--SAKSAGANSKIY, G.L.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,975

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CONSTRUCTION MATERIAL, HELIUM, ZENON, POLYMER, POROSITY,
PERMEABILITY MEASUREMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3005/0858

STEP NO--UR/0482/70/000/000/G000/0000

CIRC ACCESSION NO--AA0132948

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0132948

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DYNAMIC METHOD IS DESCRIBED FOR
DETG. THE GAS PERMEABILITY OF CONSTRUCTION MATERIALS, E.G., POLYMERS.
SAMPLES, AFTER PRELIMINARY CONDITION, ARE SATD. WITH A LIGHT GAS, E.G.,
HE. A HEAVY GAS, E.G., XE, IS USED AS THE CARRIER GAS.

UNCLASSIFIED

USSR

UDC 621.039.623

13

S
ALEKSIN, V. F., BIRYUKOV, O. V., GEORGIYEVSKIY, A. V., KITAYEVSKIY, L. KH., KOMAR, YE. G., LOGINOV, A. S., MALYSHEV, I. F., MONOSZON, N. A., POPKOVICH, A. V., ROZHDESTVENSKIY, B. V., SAKSAGANSKIY, G. L., SINEL'NIKOV, the late K. D., SOKOLOV, YU. A., SUPRUNENKO, V. A., TOLOK, V. T., CHURAKOV, G. F., and SHABEL'NIKOV, L. A.

"The Experimental Thermonuclear Device 'Uragan'"

Moscow, Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

Abstract: An urgent task of stellarator research is a definitive elucidation of the reasons for anomalous diffusion in a stellarator, as well as the effect of the shear and magnetic well on the confinement of a hot and dense plasma. These questions will be studied on the "Uragan" stellarator. Construction of the "Uragan" stellarator was begun at the suggestion of I. V. KURCHATOV and completed in 1967. The physical substantiation and technical assignment of developing and constructing the complex were developed at the Physicotechnical

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USSR

ALEKSIN, V. F., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

Institute of the Academy of Sciences Ukrainian SSR under the direction of K. D. SINEL'NIKOV, who took an active part in the solution of theoretical and technical questions. Organizations taking part in the development of the project and the construction of the complex included the Scientific Research Institute of Electrophysical Equipment imeni D. V. Yefremov, the Elektrosila Electrical Engineering Combine, the Khar'kov Polytechnic Institute imeni V. I. Lenin, the Electromechanical Plant and NIIElektroapparat [Scientific Research Institute of Electrical Equipment] in Khar'kov. A considerable amount of work on the development, manufacture, and adjustment of the systems and components of the "Uragan" was done at the Physicotechnical Institute of the Academy of Sciences Ukrainian SSR.

The principal feature of the "Uragan" is high shear (of the order of 0.02 and 0.1) at a high level of magnetic field strength

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USSR

ALEKSIN, V. F., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

H_0 (35 and 10 koe respectively). The stellarator is in the shape of a racetrack and uses a high-shear triplex helical field. The vacuum chamber of the trap consists of two semi-tori with an average radius $R = 1100$ mm and two rectilinear sectors, each 1725 mm long. The internal diameter of the chamber is 200 mm. On the outside of the chamber on the toroidal sectors are two helical windings and longitudinal magnetic field coils, distributed evenly along the device. The maximum strength of the magnetic field is 10 koe under steady-state conditions and 35 koe under pulsed conditions. Three windings are used; viz., longitudinal magnetic field, helical, and transverse magnetic field. All metallic elements are made of low-magnet steel 1Kh18N9T. The toroidal sectors of the vacuum chamber and part of the rectilinear sectors are made of stainless nonmagnetic alloy EP-125. The article gives a detailed description of the windings, cooling system, electric power supply system, vacuum system, and plasma diagnostic and heating system.

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USSR

UDC 621.527

RYABOV, V. V., SAKSAGANSKIY, G. L.

"Evacuation of Chlorine-Containing Mixtures by a Titanium Discharge Pump"

Moscow, Pribery i Tekhnika Eksperimenta, No 5, 1972, pp 166-168

Abstract: The experimental procedure and results are presented from a study of the kinetics of prolonged evacuation of Cl by a titanium magneto discharge pump of the diode type. The experiment was performed on a superdeep vacuum test unit with background and operating pressures of $2-3 \cdot 10^{-8}$ and $4-6 \cdot 10^{-6}$ torr respectively. More than 1,400 hours of Cl pumping does not lead to noticeable worsening of the pump parameters. The Cl pumping speed under steady state conditions is ~80% of the air pumping speed. The sorption of the Cl in the operating temperature range of the pump is irreversible. Reliable vacuum measurements in systems containing Cl are possible only with the application of magneto discharge manometric converters. Thermoelectronic converters are inapplicable in these cases.

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SAKSAKULM, T. I.

2/2

SAKSAKULM, T. I., Voprosy Psichologii, No 2, Mar-Apr 77, pp 50-57
 distances from the chosen point to the object of the search, i.e., the extent to
 which the paths chosen in repeated or multiple trials differ.

1/2

SJ: Freda Press Dietz
 30 Jan 78

Observing the search process as a series of steps, the experimenter wishes to
 directly, the measurement is made indirectly, as indicated by the scattering of the
 1/2

Psychology

30 Jan 78

50, USSR

94

FTD: CYBERNETICS

01/01/78

SAKSAKULM, T. I., Institute of Cybernetics, Estonian SSR Academy of Sciences, Tallin
 "On the Quantitative Characteristics of a Search by a Human Operator for an Optimum
 Solution"

Moscow, Voprosy Psichologii, No 2, Mar-Apr 77, pp 50-57

Abstract: The process of bringing a controlled object into a desired state involves
 two phases: determining the present state and behavior of the object, and exerting
 under study, the operator leaves the object characteristics by observing its response
 to control. The behavior can be characterized or stochastic, i.e., the operator may
 control the actual state of the object or the probability distribution of its possible
 by its history (the object can be "dynamic"). Involving that its behavior is determined
 determined only by its current state and the manipulation applied to it.

USSR

UDC 617-001.28-092.9-085.217.22

LOSKUTOVA, Z. F. and SAKSONOV, P., Institute of Biophysics, Moscow

"Particular Features in the Action of Sympathomimetic Amines in Radiation Injuries"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 76, No 8, Aug 73, pp 83-85

Translation: The toxicity of adrenalin, adrenalon, pervitin, phenamine, veritol, ephedrine, and sympathol for irradiated frogs and mice increases by a factor of 2 and more in comparison to their toxicity for nonirradiated animals. In comparison with nonirradiated animals, the action of all seven of the amines upon the reflex activity of the central nervous system is diminished to a considerable degree. The awakening action of phenamine and pervitin in irradiated mice that are under the action of hexenal is manifested to a considerably lesser degree than in the case of nonirradiated ones. In irradiated animals, ephedrine even intensified the hypnotic effect of hexenal. 3 tables.

1/1

- 36 -

Radiobiology

USSR

UDC 615.214.24:547.854.5(HEXENALUM).03:617-001.28-092.9

LOGSKUTOVA, Z. F. and SAKSONOV, P. P.

"Narcotic Effect of Hexobarbital Combined With Aminoethiol Radioprotectors in Irradiated Animals"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 4, 1973, pp 59-60

Abstract: Mice were gamma-irradiated (900 r) and 1 1/2 to 2 hours later injected intraperitoneally with hexenal (75 mg/kg) or hexenal combined with beta-mercaptoethylamine, cystamine hydrochloride, or cystamine hydrobromide (100 mg/kg each). The narcotic effect was assessed from the beginning and duration of the side position. All three compounds intensified the narcotic effect of hexobarbital 2.8 to 7 times in the nonirradiated mice and 6.8 to 17.7 times in the irradiated animals compared to the control, and they significantly lengthened the time the animals remained on their sides. There was no significant difference between the animals as far as time of onset of the side position was concerned, but the period of excitation of the mice that received hexobarbital together with the radioprotectors was less pronounced. The narcotic effect lasted longest in the animals that received hexobarbital and cystamine hydrobromide.

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USSR

UDC 577.1:615.7/9

SHASHKOV, V. S., ANISIMOV, B. V., and SAKSONOV, P. P.

"Chemical Prophylactics for Radiation Sickness"

V sb. Probl. kosmich. biol. (Problems in Space Biology -- Collection of Works), Vol 14, Moscow, "Nauka" (Science), 1971, pp 86-102 (Russian) (from RZh-Biologicheskaya Khimiya, No 20, 25 Oct 71, Abstract No 20F1711 from summary)

Translation: This is a survey which considers the basic groups of chemical radioprotectors, the effectiveness of their combined use, possible mechanisms of action for chemical radioprotectors (radical inactivation, physicochemical changes in molecules of the biosubstrate, oxygen effect, influence on metabolic processes and recovery processes). Bibliography with 42 titles.

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UDC 613 693 (02)

USSR

ISAKOV, P. K., IVANOV, D. I., POPOV, I. G., RUDNYY, N. M., SAKSONOV, P. P.,
and YUGANOV, Ye. M.

Teoriya i Praktika Aviatsionnoy Meditsiny (The Theory and Practice of
Aviation Medicine), Moscow, "Meditsina," 1971, 396 pp.

Translation: Annotation: This monograph elucidates theoretical and practical
questions of aviation medicine. It presents brief information on the physio-
logy, hygiene, pharmacology, toxicology, radiology, internal medicine, surgery,
psychology, and other disciplines which make up the theoretical basis of
aviation medicine. Questions of the medical flight examination for flight
personnel, medical checks on flight safety, evacuating sick and wounded
persons by air, and medical support for various types of aviation are con-
sidered.

The book is intended for aviation doctors and students at academies and
aviation institutes and faculties.

Preface

The development of aviation medicine began with the introduction of aircraft
into practical use. At the present time, representatives of practically all
1/11

USSR

ISAKOV, P. K., et al., Teoriya i Praktika Aviatsionnoy Meditsiny (The Theory and Practice of Aviation Medicine), Moscow, "Meditsina," 1971, 396 pp.

medical specialization devote attention to questions of aviation medicine. Furthermore, biologists and psychologists participate extensively in developing the scientific propositions which are used in aviation medicine.

In comparison with other occupations, flying activity involves a very high degree of action by various extreme factors on the organism. Even a slight emergency, similar to one which on the ground could be eliminated without danger to the crew, may end in disaster in the air if a set of special measures is not envisioned. For this purpose, aviation doctors participate in evaluating each new type of airplane, beginning with its design and ending with flight testing, and they conduct medical and psychological selection of candidates for flight schools. All activity by flight personnel is under constant observation by aviation doctors who regulate the flying load and participate in evaluating the pilot's readiness to perform the flight assignment.

In this book the first attempt is made to show, along with a presentation of the theoretical aspects of aviation medicine, the possibilities for applying this knowledge in the aviation doctor's practice.

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ISAKOV, P. K., et al., Teoriya i Praktika Aviatsionnoy Meditsiny (The Theory and Practice of Aviation Medicine), Moscow, "Meditsina," 1971, 396 pp

The authors made no attempt to present all questions of aviation medicine without exception. In order to carry out such an attempt at the present time, a multi-volume publication would be needed. This refers particularly to the clinical aspects of aviation medicine. The specific etiological condition for the development and course of deviations in health caused by flight factors, analyzing the possibility of performing flights after suffering diseases, and the system and methods for medical monitoring of the state of health of flight personnel are all clinical aspects of aviation medicine which are elucidated in appropriate publications and, naturally, are treated in a limited manner here.

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USSR

ISAKOV, P. K., et al., Teoriya i Praktika Aviatsionnoy Meditsiny (The Theory and Practice of Aviation Medicine), Moscow, "Meditsina," 1971, 396 pp.

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USSR

ISAKOV, P. K., et al., Teoriya i Praktika Aviatsionnoy Meditsiny (The Theory and Practice of Aviation Medicine), Moscow, "Meditsina," 1971, 396 pp.

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11/11

USSR

UDC 669.787:541.8

ARTEMOV, V. I., BURTSEV, V. T., KASHIN, V. I., and SAKSONOVA, L. N., Moscow
"Investigation of the Solubility of Oxygen in Iron Carbide, Cobalt Carbide,
and Nickel Carbide Melts"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 4, Jul/Aug 72, pp 25-31

Abstract: A study was made of the solubility of oxygen in Fe-C-O, Co-C-O, and Ni-C-O melts at 1950°C and $P_{CO} = 1$ atm, in order to obtain thermodynamic parameters of the decarburization reaction applicable to electroslag, plasma, and electron-beam remelts. The method of the experiment, which prevented contact between the liquid metal and the refractory lining of the fusion crucible, particularly at higher C concentrations (0.6-5%), is described. Diagrams show the minimum oxygen solubilities of 0.0028% at 3% C for the Fe-C-O system, 0.0010% at 0.6% C for the Co-C-O system, and 0.0010% at 0.3% C for the Ni-C-O system. Values of K_p of the decarburization reaction were determined, and derived e_O^C values are compared with data from other authors. Five illustrations, one table, twelve bibliographic references.

1/1

USSR

UDC 621.385.18.019.3

LOVPACHE, K.YU., VARTANOVA, G.A., SHANIN, YU.N., SAKULIN, G.P.

"Study Of The Effect Of Prolonged Storage Under Conditions Of Higher Than Usual Humidity On The Vacuum In A M-Type Electron Device"

Elektron.tekhnika. Nauch.-tekhn.sb. Tekhnol. i organiz. proiz-va (Electronics Technology. Scientific-Technical Collection. Technology And Organization Of Production), 1971, Issue 3(43), pp 47-51 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11A173)

Translation: Information is presented on the change of the overall pressure in M-Type metal-glass devices during storage under conditions of higher than usual humidity. The data were obtained by measurement of the current of the electron gas discharge in devices with an axial magnetic field. It is shown that a change of the vacuum takes place primarily because of an increase of the partial pressure of hydrogen, methane, and a mixture of carbon monoxide with nitrogen.

1/1

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Chapter 9

THE RIFMA LUNAR AUTOMATIC SPECTROMETRIC APPARATUS
G. Ye. Kocharov, N. F. Borodulin, S. V. Viktorov, O. M. Voropaev, A. Yu.
Dzevanetskaya, O. G. Ivanov, G. V. Kir'yan, V. V. Petrov, and V. A. Sakul'skiy

The chemical composition of a planetary body is among the most important characteristics of the history of its origin and evolution. In the overall picture for studying the chemical composition of the surface of planetary bodies in the solar system the most important object for investigation is naturally the moon.

In studying the composition of the lunar surface it was first necessary to determine the general relationship between the distribution of chemical elements on its surface and their distribution on the earth. This problem has been partially solved by Soviet scientists in experiments of chemical analysis of lunar samples made in experiments on the earth. This problem through the efforts of American scientists made from orbital stations and over small sectors of the lunar surface who analyzed the elements found by Surveyor 5, Surveyor 6, and Surveyor 7 landing sites [3].

A sufficiently complete program for investigating the chemical composition of the moon must include an analysis of many individual sectors on the visible and far sides of the lunar surface, the regions of seas and continents, craters of different sizes, "rays," etc., investigations of chemical composition in depth, etc. [4,5].

These investigations can be made both by lunar stations of different types directly on the surface and by returning ground samples to the earth for their study in laboratories.

Information exceptional in its scope and value was obtained by lunar expeditions of the Apollo ships and the "Luna-16" station. They returned to earth samples of lunar ground from the Mare Tranquillitatis, Mare Fecunditatis, and Oceanus Procellarum.

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Translation of Russian-Language monograph
Perevishnaya Laboratoriya na Lune
Lunokhodov, 1971, signed 10 press 4 June 71
Resp. editor Academician A. P. Vinogradov,
Mauka Publishing House, Moscow 128 pp.

JPRS 54,525
22 November 1971

USSR

UDC 616.155.3-008.1-07:612.766.2

FEDOROV, I. I., FEDOROVA, Z. P., PEKUS, YE. N., and SAKUN, T. L., Kiev
Institute for the Advanced Training of Physicians and Kiev Institute of
Medical Problems of Physical Culture

"Change in Leukocyte Stability in Hypodynamia"

Kiev, Vrachskoye Delo, No 4, 1972, pp 44-46

Abstract? Leukocytolysis was studied in rats and humans subjected to hypokinesia for 30 days. Leukocyte stability decreased markedly in rats immobilized in specially constructed cages for 30 days. Whereas leukocytolysis averaged 8% in the controls, it increased more than threefold in the experimental animals, averaging 25.4%. In 6 human subjects kept in bed with limited motor activity, leukocyte stability began to decrease by days 10 to 14. Leukocytolysis was twice as high as the original level in half the subjects and somewhat lower in the others. The destruction of leukocytes continued for several days after the experiment was concluded. For example, in one person the original value was 18%; 10 to 14 days after the start of hypokinesia it was 35.8, increasing to 54.5 one month later and remaining high (49.2) for 2 weeks after the end of hypokinesia. Leukocytolysis was accompanied by changes in the digestive function of neutrophils. A brief period of stimulation

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USSR

FEDOROV, I. I., et al., Vrachbnoye Delo, No 4, 1972, pp 44-46

tion of phagocytosis was followed by prolonged inhibition, weakening both nonspecific resistance to infection and specific immunologic reactivity.

2/2

USSR

UDC 681.327.12

S

BUDNYAK, A. A., OSMOLOVSKIY, YU. F., PETRENKO, A. I., SAKUN, V. A.,
FESECHKO, V. A., Kiev "Order of Lenin" Polytechnical Institute imeni
the Fiftieth Anniversary of the October Revolution

"A Color-Recognition Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye
Znaki, No 4, 1970, p 103, patent No 260983, filed 17 Nov 67

Abstract: This Author's Certificate introduces a color-recognition
device based on patent No 219923. As a distinguishing feature of the
patent, the speed of the device is increased and its overall size is
reduced by making the radiation photoreceiver in the form of an electro-
magnetic electron stream commutation system with three sections in
the photocathode of the photomultiplier. This system consists of
three electromagnets with optical filters between their poles. These
electromagnets are connected through bidirectional switches to a ring
commutator which alternates the direction of the magnetic fluxes in
the electromagnets. This commutator connects the reference phase of
the voltage to a phase meter.

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USSR

UDC 51:330.115

SAKUNOVA, I. S.

"Servicing of Several Spatially Separated Flows of Subscribers with a Portable Device"

Mat. Metody Issled. i Optimiz. Sistem. Vyp. 4 [Mathematical Methods of Investigation and Optimization of Systems, No 4 -- Collection of Works], Kiev, 1970, pp 75-82, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V549).

NO ABSTRACT.

USSR

SAKHNOV, A. S.

UDC: 543.544.08

"A Pneumatic Device for Determining the Width of a Chromatographic Peak"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 9, Mar 72, Author's Certificate No 331309, Division G, filed 1 Jun 70,
published 7 Mar 72, pp 130-131

Translation: This Author's Certificate introduces: 1. A pneumatic device for determining the width of a chromatographic peak. The device contains a signal recognition module, a device for varying an output signal with constant velocity, and a module for tracking and storing the output pressure. As a distinguishing feature of the patent, determination accuracy is improved by making the recognition module on the basis of two pneumatic comparison elements. The output pressure of one of these elements controls a contact which actuates and deactuates the module for varying the output signal with constant velocity. The output pressure of the other comparison element controls the contacts of the module for tracking and storing the output pressure. 2. A modification of the device distinguished by the fact that the module for varying the output signal with constant velocity is

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USSR

SAKHNOV, A. S., USSR Author's Certificate No 331309

made on the basis of a repeater with flow-through and dead-end chambers. The flow-through chamber is connected to the pressure-setting controller through a diaphragm, and the dead-end chamber is connected to the pressure-setting controller through a pressure divider. The output of the repeater is connected through a pressure accumulation vessel with a contact which actuates and deactuates the module for varying the output signal with constant velocity. 3. A modification of the device covered by sections 1 and 2 distinguished by the fact that the output of the chromatograph is connected to the minus chamber of the comparison element which controls the contacts of the tracking and storage module. The chromatograph output is also connected through a delay element based on a storage element and two controllable chokes to the plus chamber of the second comparison element, whose minus chamber is connected together with the plus chamber of the first comparison element to the pressure-setting controller for the level corresponding to the peak width reading. 4. A modification of the device covered by section 3 distinguished by the fact that the output of the comparison element which controls the contact for actuating and deactuating the signal variation module is connected to a pulsator based on a delay system which supplies the comparison element which controls the contacts of the tracking and storage module.

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USSR

UDC 619: 576.851.42

KAYTMAZOVA, YE. I., KURDINA, D. S., DRANOVSKAYA, YE. A., GREKOVA, N. A.,
Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, and
SAKHNOVSKIY, YU. G., State Scientific Control Institute of Veterinary Prepara-
tions

"Characteristics of Brucella ovis cultures"

Moscow, Veterinariya, No 10, 1971, pp 44-46

Abstract: Comparative study of several Brucella ovis strains isolated from sick animals in the Soviet Union (Novgorod and Pskov oblasts) showed that they are identical in morphological and biological properties to cultures isolated in Australia, New Zealand, Argentina, and Bulgaria. All strains were similar in differential properties (high carbon dioxide requirement for growth, resistance to brucellosis Tb phage, oxidative metabolism) to Brucella melitensis. Infection of guinea pigs with these strains showed that they are low in virulence (only a dose of $2 \cdot 10^9$ microbial cells induced disease). Histological examination revealed intensified lymphopoiesis and hyperplasia of reticular cells in the lymph nodes and spleen and the appearance of lymphoid nodules in the lungs. All the strains studied attacked the testes, impairing spermatogenesis.

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USSR

UDC 577.1:615.7/9

DOBROV, N. N., KOZLOV, V. A., PARSHIN, V. S., and SAKSONOV, P. P.

"Effect of Cystamine in a Mixture With Sympathomimetic Amines on Repair Processes After Exposure to Radiation and Overloads"

V sb. Probl. kosmich. biol. (Problems in Space Biology -- Collection of Works), Vol 14, Moscow, "Nauka" (Science), 1971, pp 285-288 (Russian) (from RZh-Biologicheskaya Khimiya, No 20, 25 Oct 71, Abstract No 20F1713 from summary)

Translation: Mice were subjected to gamma-irradiation (250 roentgens) and the effect of acceleration on a centrifuge (15 and 30 units, 5 min) 50 min before and 30 min after irradiation. The radioprotector cystamine (100 mg/kg) in a mixture with amphetamine (1.5 mg/kg) and adrenaline (0.15 mg/kg) was injected intraperitoneally 55 min before irradiation, and in the event of combined exposure 5 min before overload. The rate of repair of the reversible portion of radiation damage, as determined from the half-recovery period of the animals' radioresistance, was used as the criterion of protective action. The authors established that the protective action of cystamine is approximately equal for combined exposure and for irradiation alone.

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USSR

UDC 577.1:615.7/9

ANTIPOV, V. V., VASIN, M. V., DAVYDOV, B. I., SAKSONOV, P. P., and SMIRNOVA, N. V.

"Sensitivity of Mice to Radioprotectors From the Amino Thiol and Indolyl Alkyl Amine Series During the Aftereffect of Transverse Overloads"

V sb. Probl. kosmich. biol. (Problems in Space Biology -- Collection of Works), Vol 14, Moscow, "Nauka" (Science), 1971, pp 53-57 (Russian) (from RZh-Biologicheskaya Khimiya, No 20, 25 Oct 71, Abstract No 20F1713 from summary)

Translation: Mice were subjected to the action of overloads (centrifugation; 10 and 30 units 15 minutes, 40 units 10 minutes), and cystamine dihydrochloride (I; 180-350 mg/kg), S,β-aminoethylisothiuronium bromide (AET; 160-220 mg/kg), 5-methoxytryptamine (II; 180-240 mg/kg) or monosodium salt of β-aminoethylthiophosphoric (III; cystaphos; 800-1200 mg/kg) was injected intraperitoneally five minutes to 24 hours later. A slight increase in resistance to the amino thiols (I, III) was noted immediately after centrifugation, and a reliable increase in sensitivity to I and AET in 30 minutes; the reaction of the animals returned to normal in one hour. II, administered one day after overload, raised the animals' resistance. The animals' resistance to I rose with an increase in the intensity of the overloads.

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USSR

UDC 577.1:615.7/9

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* VASIN, M. V., SAKSONOV, P. P., ANTIPOV, V. V., and SHASHKOV, V. S.
"Antiradiation Effectiveness of Cystamine Under Varying Conditions of
gamma-Irradiation"

V sb. Probl. kcosmich. biol. (Problems in Space Biology -- Collection of
Works), Vol 14, Moscow, "Nauka" (Science), 1971, pp 121-131 (Russian) (from
RZh-Biologicheskaya Khimiya, No 20, 25 Oct 71, Abstract No 20F1712 from
summary)

Translation: It was established that with intraperitoneal injection of
cystamine 5-10 minutes before gamma-irradiation (139-159 roentgens/min) a
linear dependence of radioprotective activity (RA), as determined from the
cystamine dose reduction factor, on the drug dose is observable. Increasing
the time of the injection of cystamine in a dose of 150 mg/kg (30 min before
irradiation) had no effect on cystamine RA. Injection of cystamine 1 hours
before irradiation sharply lowered -- and 8-12 hours before completely
canceled -- cystamine RA. With doses of 50-100 mg/kg a lowering of RA was
noted in earlier stages. With irradiation for 1.5-4 hours (total dose 950-
1200 roentgens) the RA of cystamine, cystaphos, 5-methoxytryptamine and
S, 8-aminoethylisothiuronium bromide hydrobromide (AET) declined sharply.

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SSR

UDC 541.122.2

MIRTSKHULAVA, A. A., RAKOV, V. V., LAYNER, B. D., MIL'VIDSKIY,
M. G., SAKVAPELIDZE, L. G., State Scientific Research and Design
Institute of Rare Metals Industry
"Study of the Phase Equilibrium in Gallium Arsenide-Aluminum
Arsenide System"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 9, 1971, pp 2374-
2375

Abstract: The ternary phase diagram of the quasibinary gallium
arsenide-aluminum arsenide system with 0-15 mol% aluminum arsenide
was determined using gravimetric physicochemical analysis.
Arsenic concentration in the melt, temperature of the melt, and
arsenic vapor pressure were determined simultaneously by the above
method. Vacuum degassing of the starting materials and of the
ampoule and graphitization of the crucible prevented aluminum from
interacting with the container and with oxygen. To determine the
liquidus line polythermal cuts of the diagram were plotted for
alloys with different ratios of nonvolatile components. The

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MIRTSIGULAVA, A. A., et al, Zhurnal Fizicheskoy Khimii, Vol 45,
No 9, 1971, pp 2374-2375

maximum liquidus temperature within each cut corresponded to a
Ga-Al-As melt with 50 at.% As. The projections of the liquidus
line of the quasibinary system on T-x, P-x, and P-T planes are
shown. The experimental coefficient of interdiffusion of the
melt components, i.e., Ga, Al, and As, was found to decrease from
 $1.5 \cdot 10^{-4}$ to $1.1 \cdot 10^{-4}$ sq. cm./sec., when aluminum arsenide con-
centration in the melt was increased from 0 to 15 mol.%.

USSR

UDC 616.981.57-022.38-022.7

KATSITADZE, G. K., and ~~SAKVARELIDZE, N. K.~~ Scientific Research Institute
of Sanitation and Hygiene imeni G. M. Natadze, Ministry of Health, Georgian
SSR, Tbilisi

"Biological Characteristics of *Cl. perfringens* Strains Isolated During Food
Poisoning"

Moscow, Gigiyena i Sanitariya, No 12, 1971, pp 36-38

Abstract: Study of 105 *Cl. perfringens* strains isolated from victims of
food poisoning and from various foods showed them to have the usual morphology.
Most formed S-type colonies on solid nutrient media. All fermented lactose,
glucose, sucrose, xylose, maltose, glycogen, and inositol, forming acid and
gas. The neutralization test revealed 103 strains to be of type A. A high
degree of lysogenicity was noted, with 14 phage lines isolated and stabilized.
Lysogenicity was lost in the course of spore formation, either because lyso-
genic phage DNA existed apart from the host cell genome or because it became
denatured during sporogenesis. There were some indications that toxigenicity
could be transmitted from toxin-forming to non-toxin-forming strains by
transduction. A method of typing *Cl. perfringens* type A strains by means of
five lines of bacteriophages characterized by a fairly stable spectrum of
lytic activity (phages H, 1, 2, 5, 6) is proposed.

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UDC 532.5

USSR

SAKVARELIDZE, V. V.

"Determining the Calculated Maximum Depth of the Air-Water Layer of an Aerated Flow"

Izv. Tbilissk. n.-i. in-ta sooruzh. i gidroenerg (News of Tbilisi Scientific Research Institute of Hydraulic Structures and Hydraulic Power), 1970, No 20, pp 57-61 (from RZh-Mekhanika No 10, Oct 70, Abstract No 10 B533)

Translation: The existing relations for determining the depth of the air-water layer caused from the condition of dropping drops under the effect of a vertical pulsation velocity component (assumed on the order of the dynamic velocity) are groundless. This follows from the fact that in order for the drops to reach the actually measured altitudes vertically directional velocities much greater with respect to magnitude than the dynamic flow velocity must be in effect. Accordingly, a new solution is proposed for the problem of finding the maximum depth of an air-water layer of an aerated flow based on the assumption that the process of dropping particles of liquid into the air basically

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USSR

UDC 681.325.66

BAKHCHIYEV, G. YA., and ~~SAKYAN, E. A.~~, Tbilisi Branch, All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev (Tbilisskiy filial vsesoyuznogo nauchno-issledovatel'skogo institute metrologii im. D. I. Mendeleyeva

"Device for the Comparison of Two n-Digit Binary Numbers"

USSR Author's Certificate No 258738, filed 20 Jul 68, Moscow, Otkrytiya Izobreteniya Promyshlennyye Obraztsy i Tovarnyye Znaki, No 1, Jan 70, p 130

Translation: A device for the comparison of two n-digit binary numbers which consists of a bit-by-bit "AND" circuit, the outputs of which through bit-by-bit "OR" circuits are connected to the outputs of bit-by-bit "NOT" circuits; two multi-output "OR" circuits; and output "AND" circuits is presented. Its special feature is the fact that for the purpose of simplification, the first and second inputs of the bit-by-bit "AND" circuits are connected to the corresponding bit-by-bit busbars of direct and inverse values of the compared numbers; the third inputs of the bit-by-bit "AND" circuits, with the exception of the "AND" circuit of the high-order bit, are connected to the outputs of the respective bit-by-bit "NOT" circuits, and the outputs of the bit-by-bit

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USSR

BAKHCHIEV, G. YA., et al., USSR Author's Certificate No 258738,
filed 20 Jul 68, Moscow, Otkrytiya Izobreteniya Promyshlennyye Obraztsy
i Tovarnyye Znaki, No 1, Jan 70, p 130

"AND" circuit are connected with the inputs of the corresponding multi-input "OR" circuits, the outputs of which are connected to the first inputs of the first and second output "AND" circuits. Consequently, the second inputs of the output "AND" circuits are connected to the busbar of the interrogation signals. The first input of the third output "AND" circuit is connected to the output of the "NOT" circuit of the low-order bit of the compared numbers; the output of every bit-by-bit "OR" circuit of the high-order bit is connected to the input of the corresponding bit-by-bit "OR" circuit of the lower-order bit.

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USSR

SAKYEVICH, I. U.

"Session of the General Meeting of the Academy of Sciences BSSR"

Minsk, Vestsi Akademii Navuk Belaruskay SSR, No 3, 1970, p 117

Translation: On 17 April 1970 during a session of the general meeting of the Academy of Sciences BSSR, election of Academicians and Corresponding Members of the BSSR Academy of Sciences took place.

ELECTED ACADEMICIANS OF BSSR ACADEMY OF SCIENCES

1. AKHREM AFANASIY ANDREYEVICH -- specialty: chemistry of natural compounds
2. MAKHNACH ALYAKSANDR SYAMONAVICH -- specialty: geology
3. PAUSHKIN YARASLAW MIKHAYLAVICH -- specialty: petrochemical analysis

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USSR

SAKYEYEVICH, I. U., Vestsi Akademii Navuk Belaruskay SSR, No 3, 1970,
p 117

ELECTED CORRESPONDING MEMBERS OF BSSR ACADEMY OF SCIENCES

1. AMBROSAW ANTON LAWRENTS'YEVICH -- specialty: virusology
2. BORMATAW VSYEVALAD YAWSTAF'YEVICH -- specialty: genetics
3. GURYNOVICH GYEOGTIY PAWLAVICH -- specialty: optics
4. KAMAROW VLADZIMIR SYAMONAVICH -- specialty: colloidal chemistry
5. SUDNIK MIKHAIL RAMANAVICH -- specialty: Belorussian linguistics
6. SHASHKOW ANATOL' GYERASIMAVICH -- specialty: thermophysics

The elected Academicians and Corresponding Members of the
BSSR Academy of Sciences were heartily greeted by the President of
BSSR Academy of Sciences, Academician M. A. BARYS'YEVICH and the
general assembly.

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USSR

SAKYEVICH, I. U., Vestsi Akademii Navuk Belaruskay SSR, No 3, 1970,
p 117

Participating in the work of the session were a member of a branch of the Central Committee of the Communist Party of Belorussia, A. TS. KARATKYEVICH; a member of a branch of the Soviet of Ministers BSSR YA. K. KASPYAROVICH; Vice-Educational Secretary of the Soviet for Coordination of Educational Activity of the Academies of Science in Union Republics, from the Presidium of the Academy of Sciences USSR, U. M. DRAVANAW.

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USSR

SAKYEVICH, I. U. S

"Jubilee Session of the Academy of Sciences of the Belorussian SSR"

Minsk, Vestsi Akademii Navuk Belaruskay SSR, No 3, 1970, pp 116-117

Abstract: The Jubilee Session of the Academy of Sciences of the Belorussian SSR was convened on April 16, 1970 by the President of the Academy M. A. BARYSYEVICH and dedicated to the commemoration of the 100th anniversary of V. I. Lenin's birth.

Various members of the Academy gave reports on the immense progress of Belorussia guided by Lenin's ideas: the growth of the Academy to 6,000 doctors and candidates and 20,000 workers; two universities with a series of research institutes; industrialization of the republic and development of physics and mathematics; arts, literature, philosophy, and language of Belorussia; extensive studies of nature and biology, biophysics, cybernetics, and biochemistry.

1/1

Adsorption

USSR

UDC 541.183.24:661.183.123

GORODNEV, M. S., SALADADZE, K. M., KOTRELEV, M. V., URMAN, YA. G., and Z
ZHUKOV, M. A., Scientific Research Institute of Plastics, Moscow

"Investigation of the Thermal Stability of Anionites"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, Vyp 8, No 2, p 2154

Translation: The effect of heat on the physicochemical properties of anionites made from vinylpyridine monomers of the series was studied.

It was established by differential thermal analysis and thermogravimetry that when anionites are heated in air, two endothermic effects are observed - dehydration and degradation.

It was demonstrated that the physicochemical properties of anion exchangers remain practically unchanged up to 160°C.

Immunology

USSR

UDC 615.371:576.851.71].012.6.011.17.576.858

SALAGOVA, T. A., IGNATOVICH, V. F., and PILLE, E. R., State Institute of Standardization and Control of Medical Biological Preparations imeni Tarasevich, and Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, Moscow

"Methods for Detecting Viral Contaminants in Live Rickettsiosis Vaccines Produced in Chick Embryos"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 47-51

Abstract: The pathogenicity of rickettsiosis vaccines with respect to viral contaminant test tissues necessitated development of alternative methods for detecting such contaminants during industrial production of the vaccines. Live typhus vaccine, Q fever vaccine, and live tick-borne rickettsiosis vaccine were treated with antibiotics to prevent rickettsial growth, to reduce its pathogenicity an intermediate product in typhus vaccine production was employed, while dry Q fever and tick-borne rickettsiosis vaccines were used as 50 and 10% suspensions in Medium No 199. It was possible to detect the following viral contaminants in these vaccines by applying them to the tissue preparations noted: Chick embryo fibroblasts: Fowl plague, Newcastle disease, infectious 1/2

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SALAGOVA, T. A., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 47-51

laryngotracheitis, fowl pox; emryonic chick kidney: Fowl encephalomyelitis, fowl enteroviruses, hen reoviruses, hen adenoviruses, infectious laryngo-tracheitis; chick embryos: hen pox, infectious laryngotracheitis, fowl plague, Newcastle disease, blue comb crest disease; suckling mice: Arboviruses, ornithosis. Detection of infectious bronchitis, Marek's disease, and fowl leukosis presents particular problems, which are described. As a control of these methods the vaccines were applied to the above tissue cultures and human amnion cells artificially infected with fowl pox. It was possible to detect the contaminant by these methods.

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1/2 029 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE CONTRACTILE FUNCTION OF THE HEART IN EXPERIMENTAL
THYROTOXICOSIS IN RABBITS -U-
AUTHOR-(02)-KANDROR, V.I., SALAKHOVA, N.S. S
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 4, PP 47-51
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART, RABBIT, THYROID GLAND, ENDOCRINE SYSTEM DISEASE,
MYOCARDIUM, BODY FATIGUE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FILE/FNAME--1988/1590

STEP NO--UR/0219/70/069/004/0047/0051

CIRC ACCESSION NO--AP0106336

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 029

CIRC ACCESSION NO--AP0106336

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PROLONGED THYROIDIN ADMINISTRATION TO RABBITS LEADS TO A SHARP INCREASE OF INDICES OF THE CARDIAC CONTRACTILE FUNCTION (MAXIMAL PRESSURE AND MAXIMAL RATE OF ITS INTENSIFICATION IN THE LEFT VENTRICLE, OPIE'S TENSION TIME INDEX). THE NUMBER OF FUNCTIONS PERFORMED BY EACH MASS OF THE MYOCARDIUM ALSO RISES. THE FUNCTIONAL RESERVE OF THE HEART, CALCULATED AS A RATIO BETWEEN THE MAXIMALLY ATTAINABLE FUNCTION IN CONDITIONS OF ISOVOLUMETRIC CONTRACTION AND THE REAL FUNCTION DECREASES. THE CURVES OF FATIGUE OF THE CARDIAC MUSCLE TESTIFY TO THIS EFFECT. INTENSIFICATION OF THE SEVERITY OF THE PATHOLOGY IS NOT ATTENDED BY FURTHER INCREASE OF THE CARDIAC CONTRACTILE FUNCTION. THE CONTRACTIBILITY OF THE MYOCARDIUM, WHICH INCREASES AT EARLY STAGES OF THYROTOXICOSIS, WITH PROGRESS OF THE LATTER DECLINES TO THE CONTROL LEVEL.

UNCLASSIFIED

USSR

UDC: 536.764:543.22

ADKHAMOV, A. A., Academician of the Tadzhik-Academy of Sciences,
and SALAKHUTDINOV, M. I.

"Phenomenological Theory of Sound Absorption in Liquid Helium Near
the Lambda Point"

Dushanbe, Doklady Akademii Nauk Tadzhikskoy SSR, No 10, 1973,
pp 16-19

Abstract: An equation is given for the thermodynamic potential for the asymmetrical phase of helium close to the transition point in terms of η , an ordering parameter. This equation was obtained from the Landau and Lipshits book *Staticheskaya fizika* (Statistical Physics, Moscow, "Nauka," 1964). The anomalous absorption of sound in symmetrically phased helium close to the lambda point is caused by the interaction of the sound wave with fluctuations in η ; the same phenomenon occurs in asymmetrically phased helium in addition to the relaxation of η . The purpose of this paper is to investigate the interaction of the sound and the fluctuations of η theoretically and to study the kinetics of these fluctuations. Equations are obtained for the actual velocity of sound and the absorption factor in both helium phases. Curves for these equations are
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UDC: 536.764:543.22

ADKHAMOV, A. A., et al, Doklady Akademii Nauk Tadzhikskoy SSR, No 10, 1973, pp 16-19

plotted and are compared with like curves plotted from experimental data. A good agreement between the two is indicated.

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1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--RAPID METHOD OF DETERMINING TIN IN ORES AND DRESSING PRODUCTS BASED
ON THE MOSSBAUER EFFECT -U-
AUTHOR--(02)-SALAKHUTDINOV, N., KALMAKOV, A.A.
COUNTRY OF INFO--USSR
SOURCE--IZVEST. V.U.Z., TSVETNAYA MET., 1970, (1), 17-21
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--TIN, METAL ORE, ORE BENEFICIATION, BIBLIOGRAPHY, METAL
CHEMICAL ANALYSIS, MOSSBAUER EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0549 STEP NO--UR/0149/70/000/001/0017/0021
CIRC ACCESSION NO--AP0124244
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A FAST METHOD OF DETERMINING SN IN GRES AND GRE DRESSING PRODUCTS, BASED ON THE MOSSBAUER EFFECT, IS DESCRIBED TOGETHER WITH THE RESULTS OF INDUSTRIAL TESTS ON A MODEL APPARATUS. BY THIS MEANS SN CONTENTS FO 0.1-60PERCENT MAY READILY BE DETERMINED TO AN ACCURACY AT LEAST EQUAL TO THAT OF CHEMICAL ANALYSIS. THE TIME REQUIRED FOR A SINGLE MEASUREMENT IS 4 MIN AND THE WHOLE ANALYSIS TAKES SIMILAR TO 15 MIN. THERE IS NO DANGER TO THE OPERATOR FROM THE RADIATION INVOLVED.

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